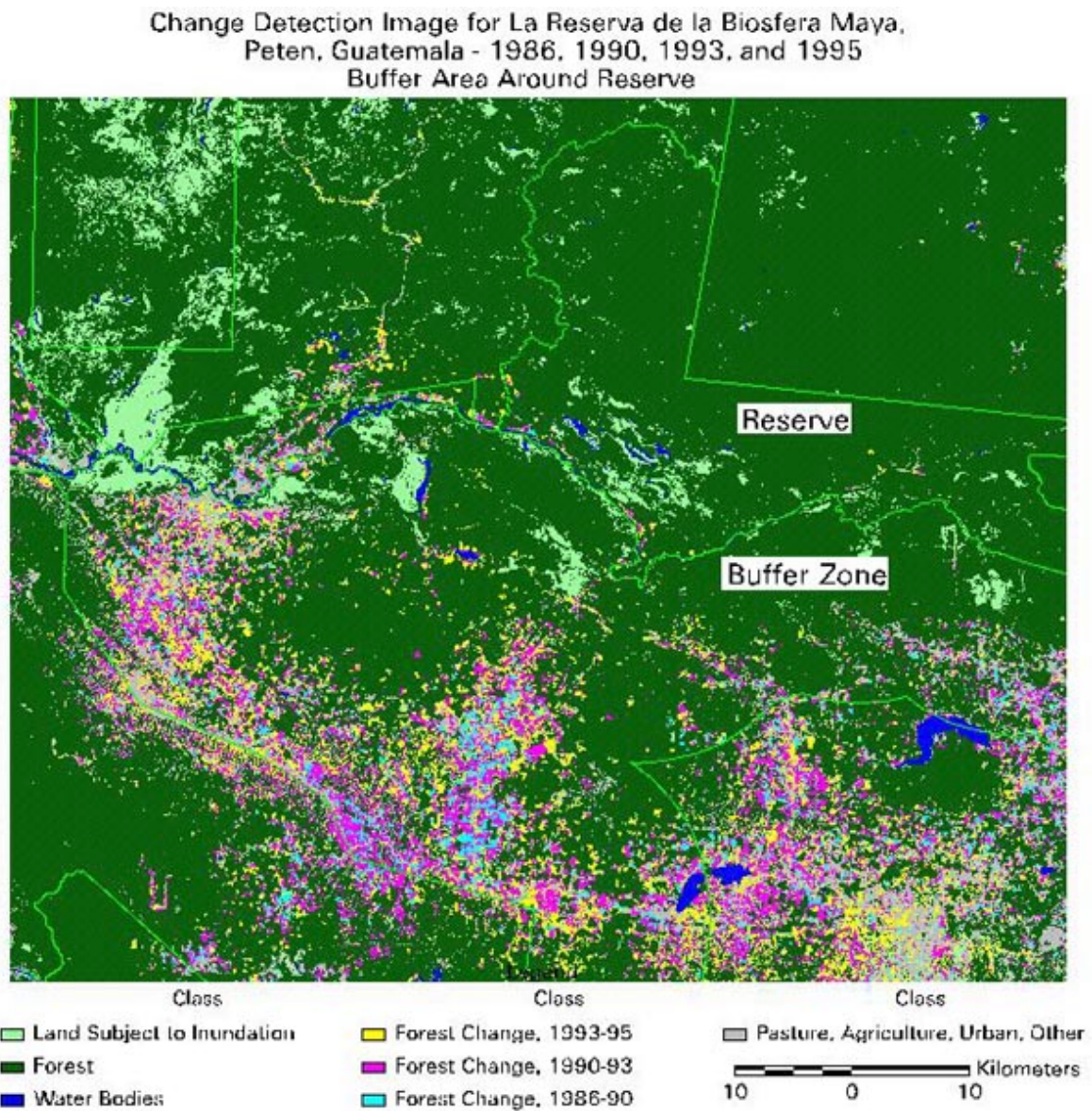


## LCLUC Abstract

### Time-Series Forest Change, Land-Cover/Land-Use Conversion and Socio-Economic Driving Forces in The Northern Peten District, Guatemala

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The three year investigation will analyse time-series Landsat imagery (>20 yrs) for land-use conversion trends and socio-economic driving forces for a 25000 sq. km study area in the northern Peten district of Guatemala. Land-cover types and regeneration age classes will be identified and coded into land use history strata for sampling. Vegetation measurements, GPS readings and household farmer/rancher interviews will be conducted at sample locations. In year two, synthetic aperture radar(SAR) imagery will be processed to test for relationships between

SAR backscatter and successional forest age class canopy structure. Aerial videography linked to GPS on the aircraft will be collected each year to supplement field data collection and to improve field sampling efficiency. In year three, we will conduct spatial analysis and fragmentation studies and reconstruct the criteria that slash-and-burn farmers (and ranchers) use to make land-use conversion decisions. Socio-economic and biophysical data will be linked with our time-series GIS and field surveys to analyse driving forces influencing land-use change within the Maya Biosphere Reserve management units and buffer zone. The ultimate goal of the project is to provide better understanding of deforestation processes and address uncertainties or data gaps in existing regional and global climate models. The project is a cooperative effort between the University of Maine - forest management department, Conservation International, and NASA Stennis and Marshall Space Flight Centers. The research will complement an ongoing sustainable development program administered by Conservation International - ProPetén in Flores, Guatemala with funding support from the U.S. Agency for International Development.